

<i>Carex rigida</i> , Gooden.,	<i>Agrostis alba</i> , L.,
var. <i>Goodenovii</i> , Bailey.	var. <i>vulgaris</i> , Thurb.
<i>C. maritima</i> , O. F. Mueller.	<i>A. alba</i> , L.,
<i>C. Magellanica</i> , Lam.	var. <i>stolonifera</i> , Vasey.
<i>C. flava</i> , L. var. <i>viridula</i> , Bailey.	<i>Calamagrostis canadensis</i> , Beauv.
<i>C. sterilis</i> , Willd. (forms)	<i>Danthonia spicata</i> , Beauv.
<i>C. canescens</i> , L.	<i>Poa compressa</i> , L.
<i>C. trisperma</i> , Dewey.	<i>P. pratensis</i> , L.
<i>C. straminea</i> , Willd.,	<i>Osmunda cinnamomea</i> , L.
var. <i>aperta</i> , Boott.	

THE MARINE FLORA OF GREAT DUCK ISLAND, ME.

F. S. COLLINS.

THE location and character of the Duck Islands are indicated in another article in this number of RHODORA, by Mr. Rand, with whom I visited Great Duck Island last July. While he was investigating the land flora, I gave my attention to the marine flora, and that it is interesting may be inferred from the fact that I did not once step above high-water mark, though I was among the first to land and the last to re-embark. The shore near the landing point shows a nearly horizontal stratification, with a slight upward slope seaward. There is thus formed a series of terraces, each with a shallow pool along its inner half. The bottom and sides of these pools are richly coated with algae, and the general development of the flora here is more luxuriant than on Mount Desert Island itself, even at exposed points. Why a small outlying island should have a more luxuriant flora than an exposed part of a larger island or of the mainland, it is hard to say; but on the New England coast, at least, this seems to be the case.

Perhaps the most striking feature here was *Ralfsia deusta* J. Ag., carpeting the bottoms of pools, sometimes in patches more than a square meter in extent. This is a characteristic northern species, its extreme southern limit on this coast being Nahant, Mass., and I had never seen it so luxuriant as here. Those who know it only from dried, shrunken, uniformly dark brown herbarium specimens, have no idea of its beauty when growing. It consists of horizontal, overlapping, fan-shaped fronds, radiately striate and concentrically zoned in

shades of brown and yellow, lightest at the margin, sometimes reminding one of a small and delicate Polyporus. Under this surface of vigorous fronds is a thick mass of old, overgrown fronds, the lowest practically a structureless mass. Probably many years' growth is needed to produce one of these thick carpets. Though all the other species of this genus fruit abundantly, the fructification of this species is yet to be discovered, and the Duck Island specimens, for all their luxuriance, show nothing but vegetative growth.

Turning from a rare and local species to a widely distributed and very common one, *Polysiphonia urceolata* (Lightf.) Grev. presents a curious form here. I can find nothing in the many descriptions of this plant in regard to a creeping base; but here it formed dense mats of rooting filaments, from the centre of which arose the well-known vertical tufts. Where only the prostrate filaments occurred, no one would suspect, without careful examination, that the brownish circular disk, a few centimeters in diameter, belonged to this common species.

Laminaria platymeris De la Pyl. also shows different characters here from what it has in some other places. As noted by Setchell,¹ in Massachusetts bay it is epiphytic on the larger Laminarias; but here it grows on the rock sides and bottoms of the larger pools.

In less than three hours' time, within a stone's throw of the point of landing, I noted sixty-one species and two varieties of algae. Notice of microscopic forms was out of the question; but if we make a fair allowance for them, for plants preferring the different character of shore which occurs in other parts of the island, and plants to be found at other times of the year, the number given would probably be doubled. It is therefore hardly worth while to give a list as incomplete as our present must be. The Laminariaceæ were strongly represented, both as to species and individuals, and there were five species of Fucus. The general brown aspect that these large plants gave to the region was relieved by the green of Cladophoras of the Acrosiphonia group, and the pink and white of Corallina and Lithothamnion. Most of the red algae were dull colored, but there were some superb broad fronds of *Rhodymenia palmata* (L.) Grev., half a meter in length, each frond full of tetraspores throughout; while small, but bright, fronds of *Polysiphonia urceolata* (Lightf.) Grev., and of *Gloiosiphonia capillaris* (Huds.) Carm., lighted up the shallow pools.

¹ Rhodora, Vol. II, p. 143.

The thoroughly northern character of the flora made a hasty visit tantalizing; one felt that a longer stay might be rewarded by some of the curious forms that Rosenvinge has found at Greenland, many of them growing on host plants that abound here.

POGONIA PENDULA IN MAINE.

LE ROY HARRIS HARVEY.

WHILE on an extended collecting trip along the western border of Maine, in the fall of 1899, the writer in company with a botanical friend, climbed Frost Mountain for the purpose of obtaining specimens of the maiden-hair spleenwort, *Asplenium Trichomanes*, L.; the ebony spleenwort, *Asplenium ebeneum*, Ait., and the rusty Woodsia, *Woodsia Ilvensis*, R. Br.

Frost Mountain, having an altitude of about 3600 feet, is situated in the town of Brownfield, forty miles northwest of Portland, ten miles south of Fryeburg, and five miles from the New Hampshire line. The ascent was made on the southwestern slope. Nearly half way up we passed through a ravine-like depression covered with hard growth, mostly beech. As we mounted the further slope of this ravine, we simultaneously uttered exclamations of surprise, and hastened forward to examine more closely our find, which we readily recognized as *Pogonia pendula*. Growing in an isolated clump, were four specimens — three well developed and one aborted. The plants were firmly rooted in a bed of leaf mould over granite formation. Two of the plants were carefully dug up for our herbaria, and the others left, as we hoped thus permanently to maintain the locality. We searched very carefully over the immediate slope, but to no avail.

This is the first time the nodding pogonia, *Pogonia pendula*, Lindl. has been reported east and north of Lake Winnipiseogee, N. H., and is the fourth authentic locality in the New England states.

I append the following data, which have been kindly put at my disposal by Mr. Emile F. Williams of Boston, who is compiling a check-list of our New England orchids.

Mr. Williams has examined, to date, the following herbaria — Gray; Brown University; W. P. Rich, J. R. Churchill, C. E. Faxon, Boston; G. G. Kennedy, Milton; Walter Deane and M. L. Fernald, Cambridge; C. H. Bissell, Southington, Conn.; J. F. Collins and W. W.